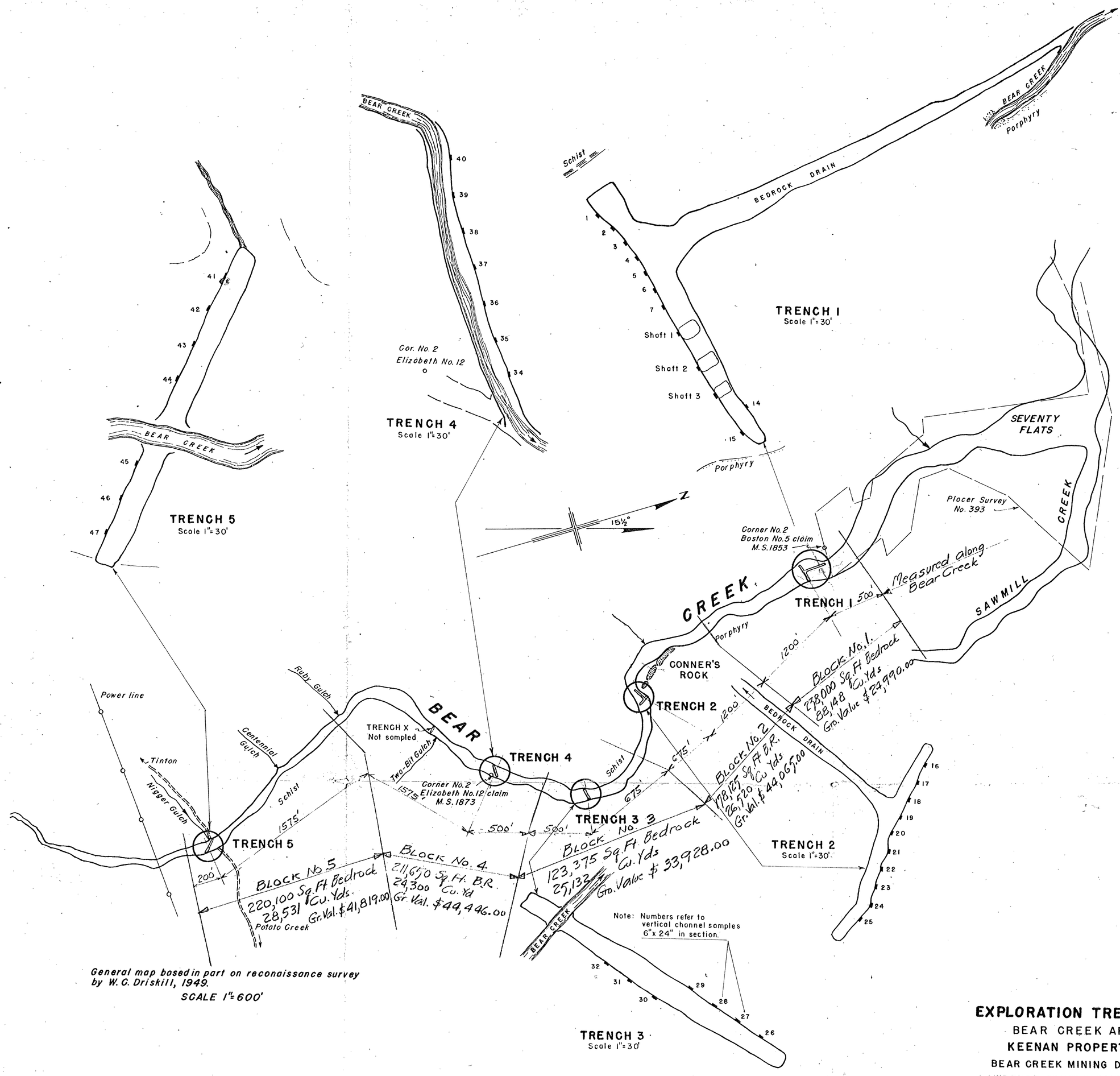
Old 60' shaft - pegmatite.
Cuts.

A31057

Pilot Plant in Potato Creek
November 1949.



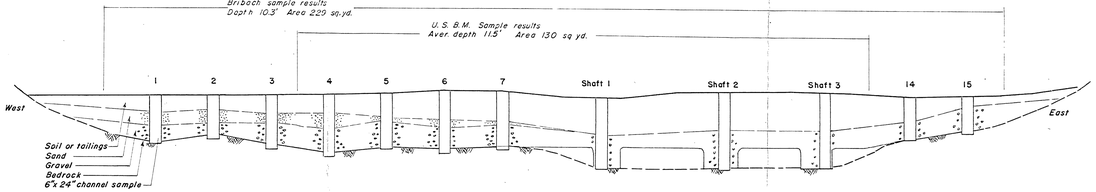
General map based in part on reconaissance survey by W. C. Driskill, 1949.
SCALE 1"=600'

EXPLORATION TRENCHES
BEAR CREEK AREA
KEENAN PROPERTIES
BEAR CREEK MINING DISTRICT
LAWRENCE COUNTY, SOUTH DAKOTA

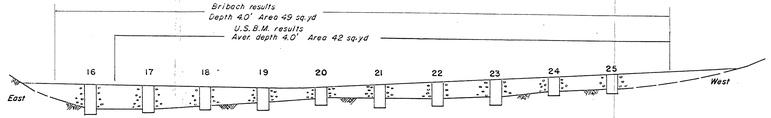
WALTER W. JOHNSON COMPANY
351 California Street
San Francisco California

Drawn by: L. E. Shaffer
Checked by:
Sept. 1951

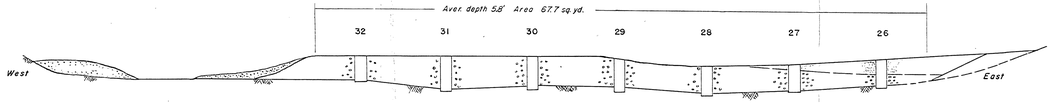
Figure 2



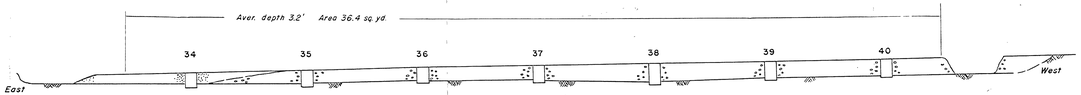
TRENCH 1



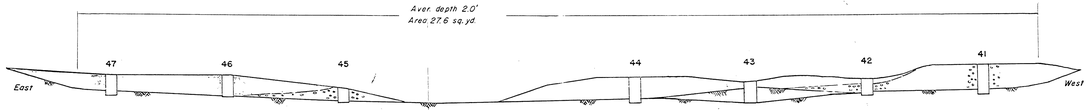
TRENCH 2



TRENCH 3



TRENCH 4



TRENCH 5

TRENCH SECTIONS and SAMPLES

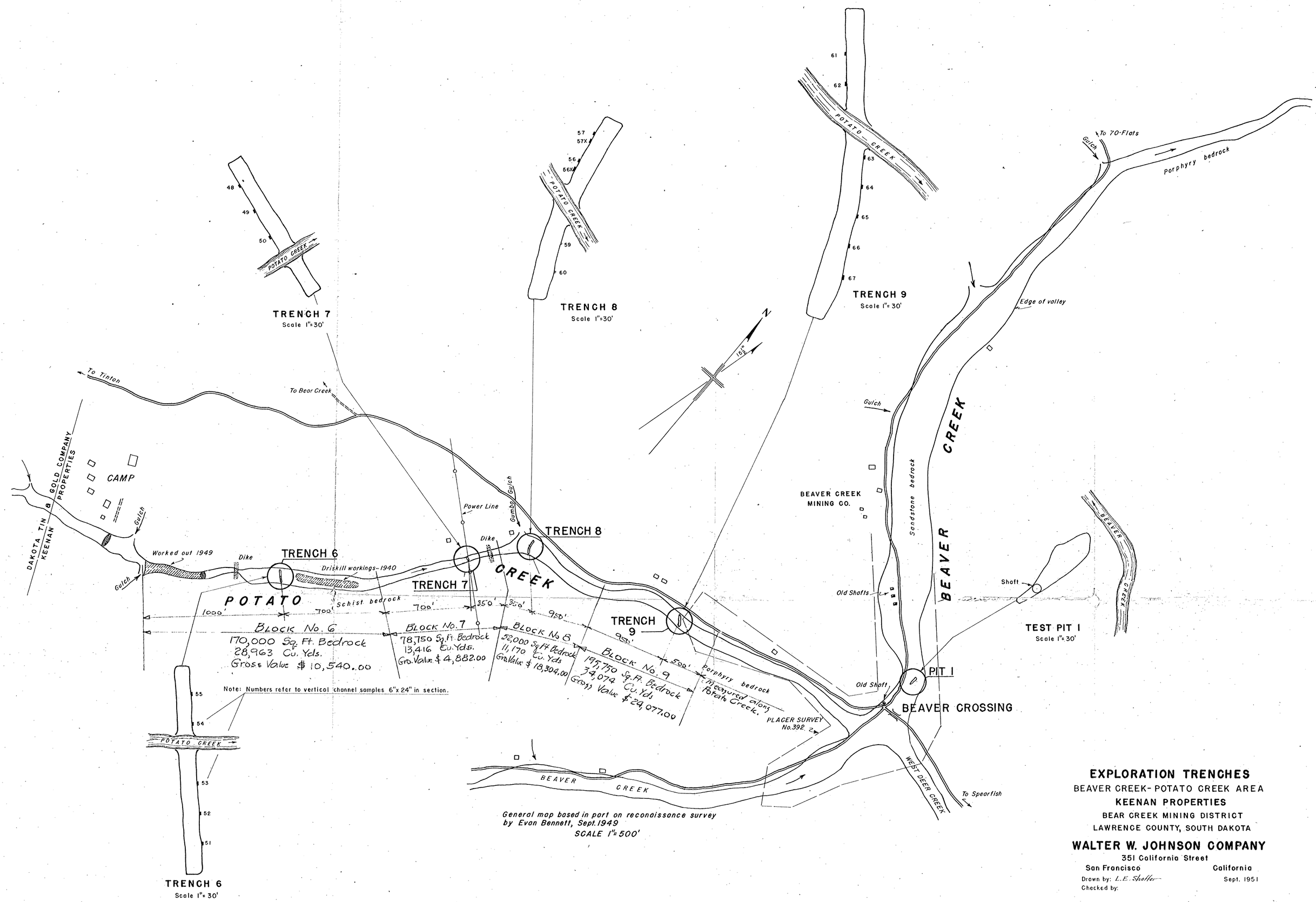
BEAR CREEK AREA

KEENAN PROPERTIES

SCALE 1"=10'

Drawn by: L. E. Shaffer October 1951

Figure 4



EXPLORATION TRENCHES

BEAVER CREEK- POTATO CREEK AREA

KEENAN PROPERTIES

BEAR CREEK MINING DISTRICT

LAWRENCE COUNTY, SOUTH DAKOTA

WALTER W. JOHNSON COMPANY

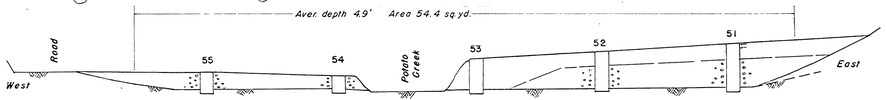
351 California Street

San Francisco California

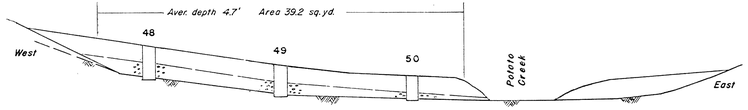
Drawn by: L.E. Shaffer Sept. 1951

Checked by:

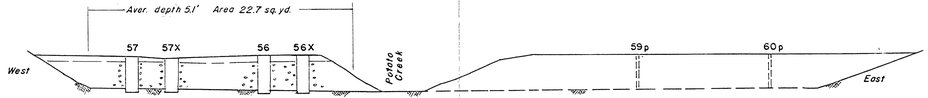
Figure 3



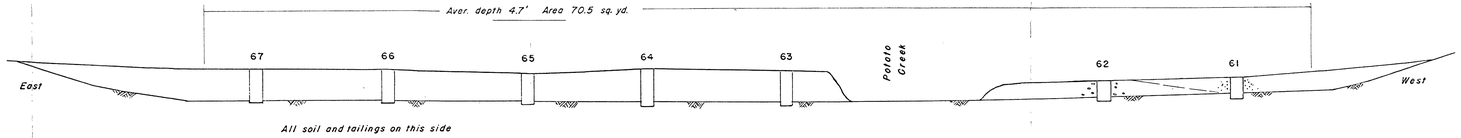
TRENCH 6



TRENCH 7



TRENCH 8



TRENCH 9

TRENCH SECTIONS and SAMPLES

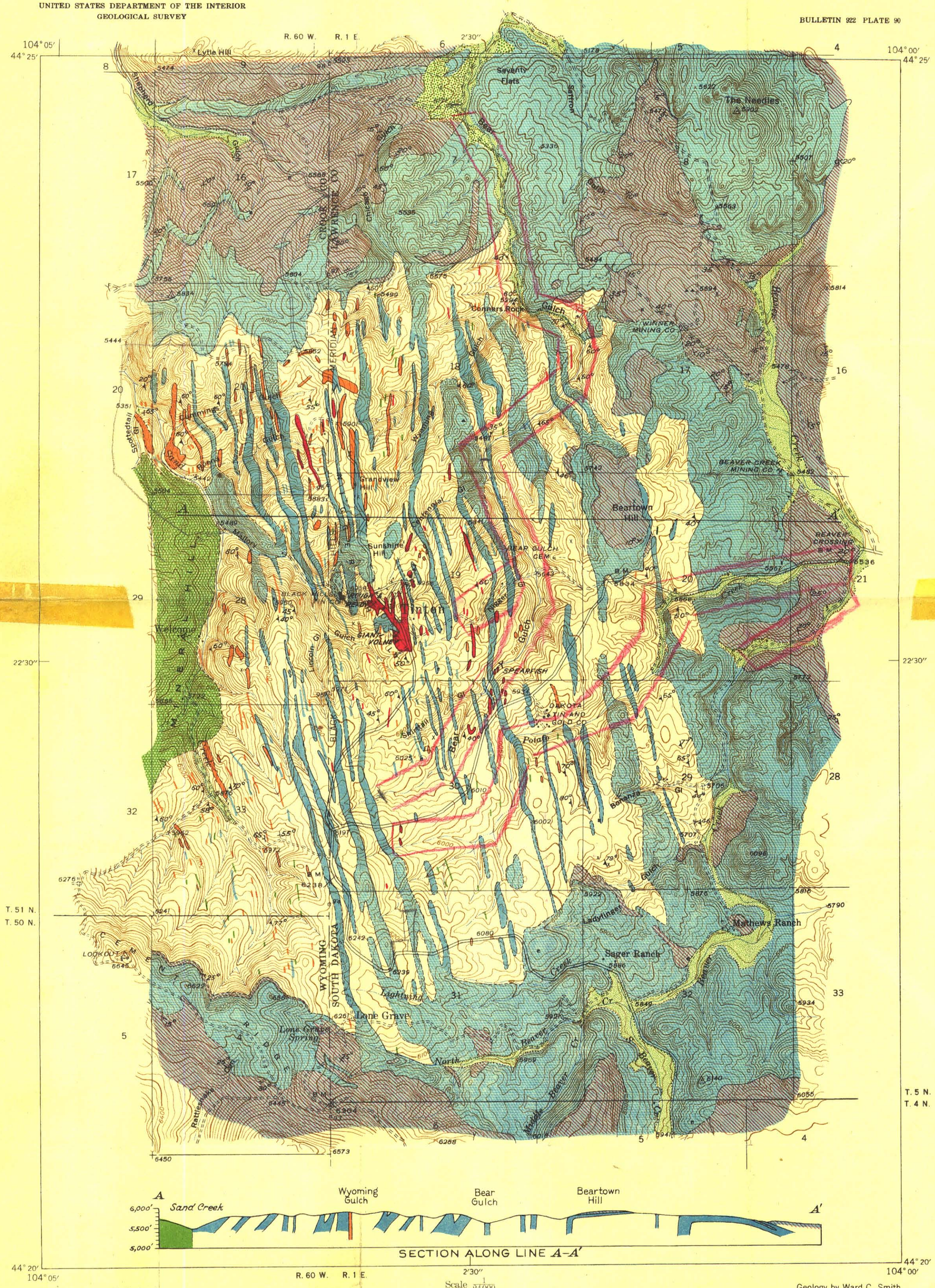
POTATO CREEK AREA

KEENAN PROPERTIES

SCALE 1"=10'

Drawn by: L. E. Shaffer October 1951

Figure 5



EXPLANATION

QUATERNARY

- Alluvium
- Terrace gravels

TERTIARY

- Lamprophyre dikes
- Pseudo-leucite-bearing and nepheline-bearing intrusive rocks
- Monzonite and syenite porphyry

PALEOZOIC

- Deadwood formation (Cambrian), Whitewood limestone (Ordovician), Englewood limestone (Carboniferous), undifferentiated

PRE-CAMBRIAN

- Pegmatite
- Pegmatite *(Tin-bearing)*
- Quartz-mica schist and hornblende schist

Geologic boundary accurately located

Geologic boundary approximately located

Geologic boundary projected and inferred

25° Strike and dip of bed

45° Strike and dip of schistosity or foliation

Tunnel

Mine

X Prospect

BM 6238 Bench mark

△6140 Triangulation station

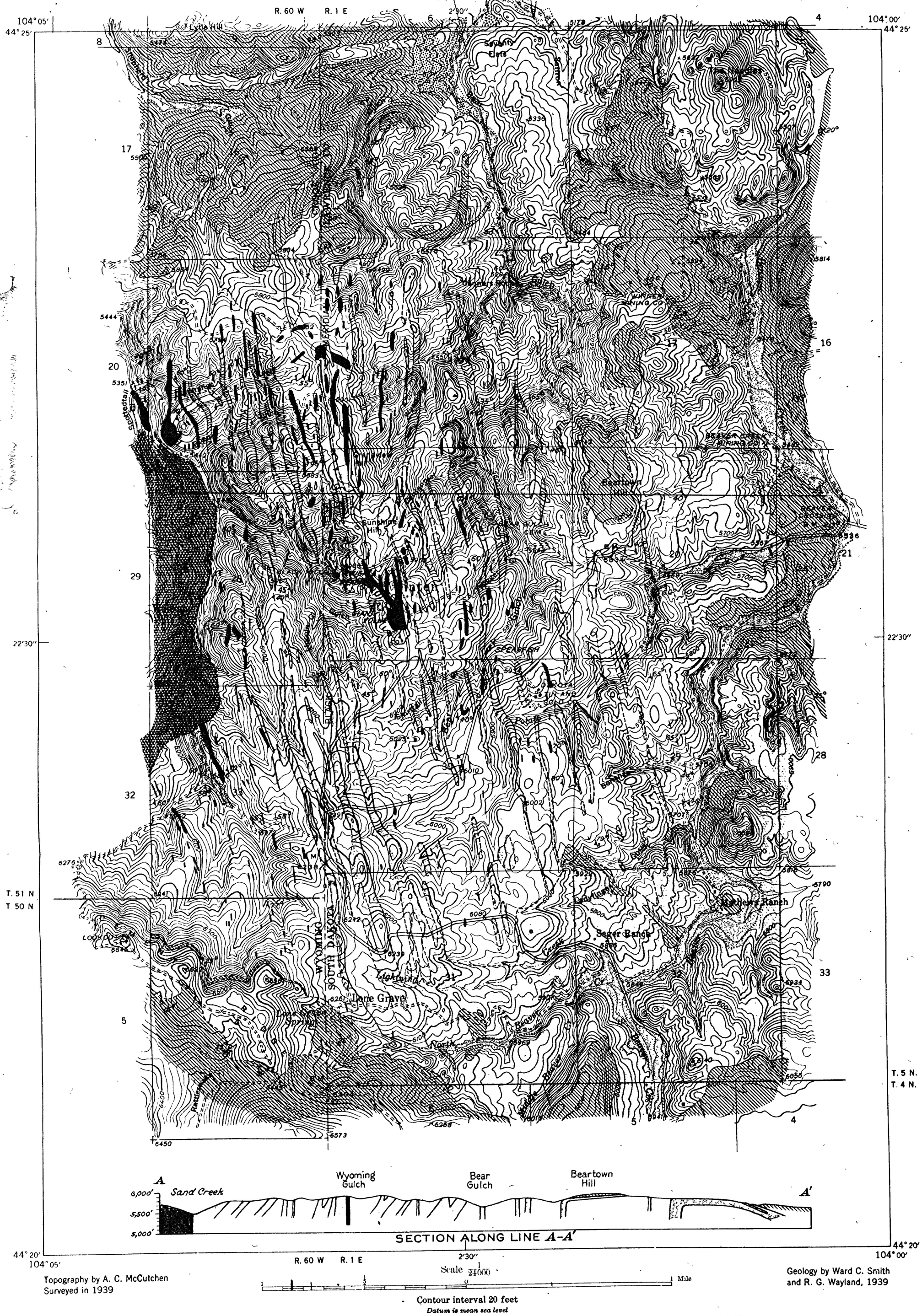
Topography by A. C. McCutchen
Surveyed in 1939

Contour interval 20 feet
Datum is mean sea level

Geology by Ward C. Smith
and R. G. Wayland, 1939

GEOLOGIC MAP AND SECTION OF THE TINTON DISTRICT, SOUTH DAKOTA

1941



Topography by A. C. McCutchen
Surveyed in 1939

Geology by Ward C. Smith
and R. G. Wayland, 1939

EXPLANATION

QUATERNARY

- Alluvium
- Terrace gravels

TERTIARY

- Lamprophyre dikes
- Pseudo-leucite-bearing and nepheline-bearing intrusive rocks
- Monzonite and syenite porphyry

PALEOZOIC

- Deadwood formation (Cambrian), Whitewood limestone (Ordovician), Englewood limestone (Carboniferous), undifferentiated

PRE-CAMBRIAN

- Pegmatite
- Pegmatite *(Tin-bearing)*
- Quartz-mica schist and hornblende schist

Geologic boundary accurately located

Geologic boundary approximately located

Geologic boundary projected and inferred

25° Strike and dip of bed

45° Strike and dip of schistosity or foliation

Tunnel

Mine

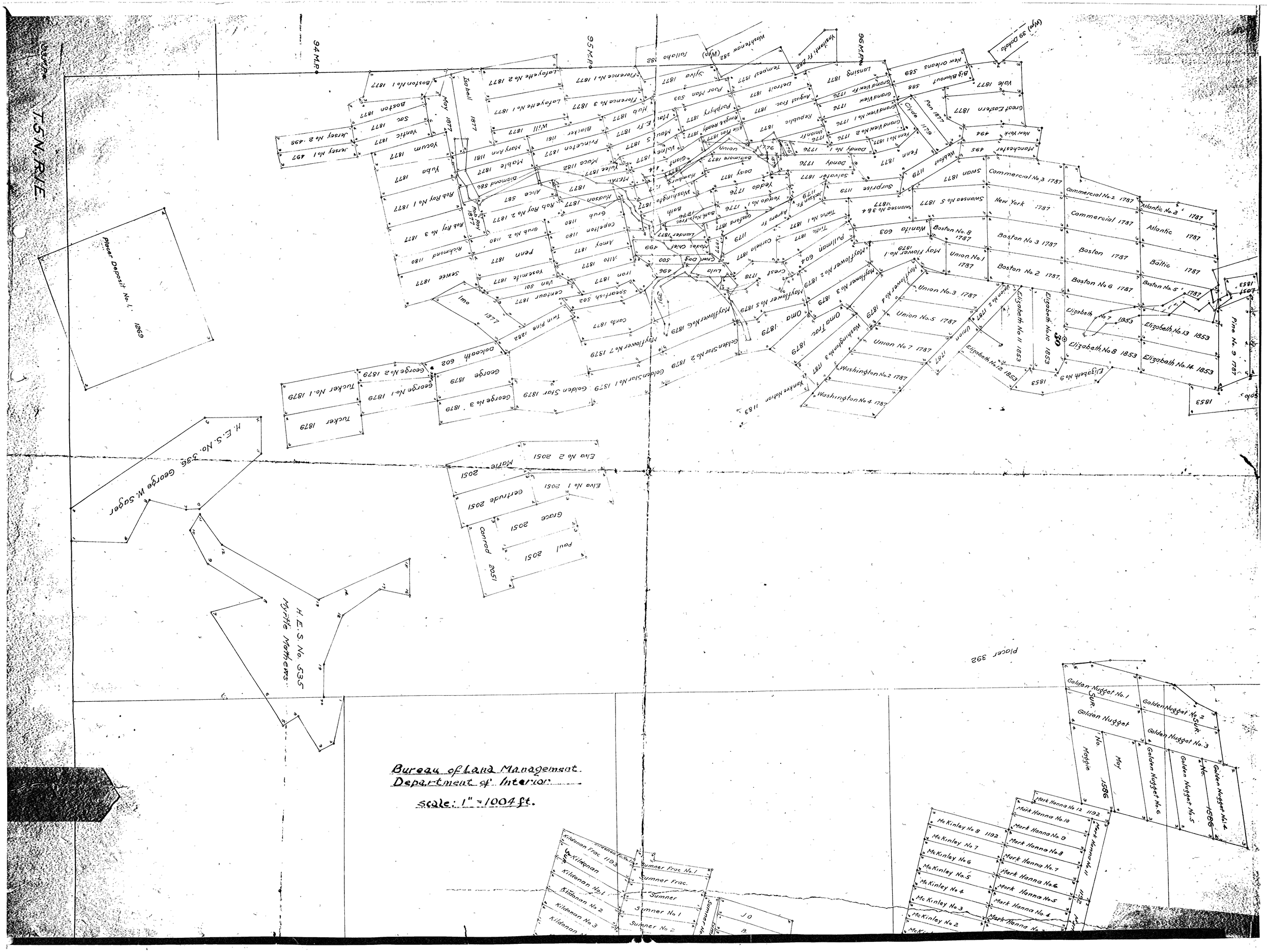
Prospect

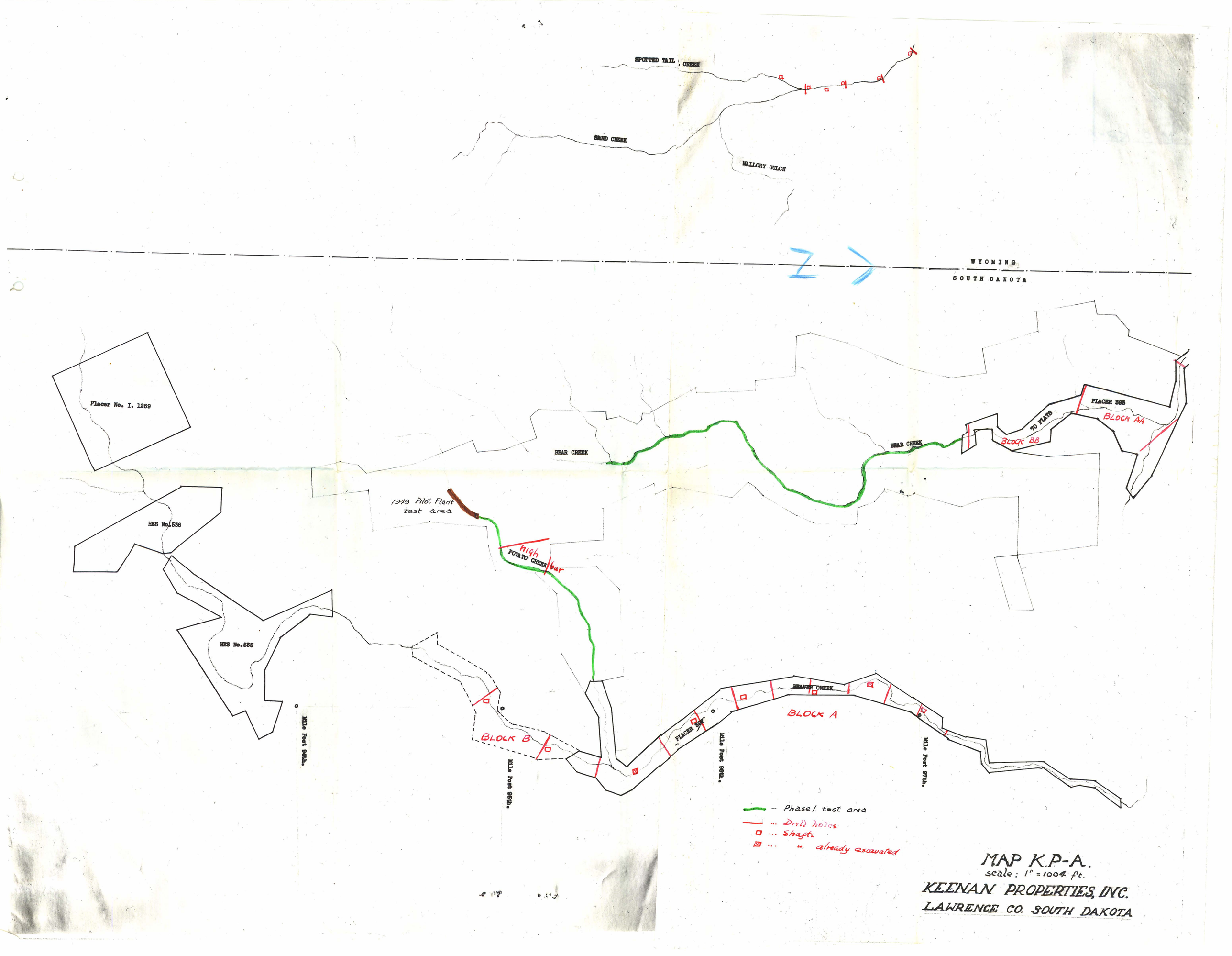
BM 6238 Bench mark

6140 Triangulation station

GEOLOGIC MAP AND SECTION OF THE TINTON DISTRICT, SOUTH DAKOTA

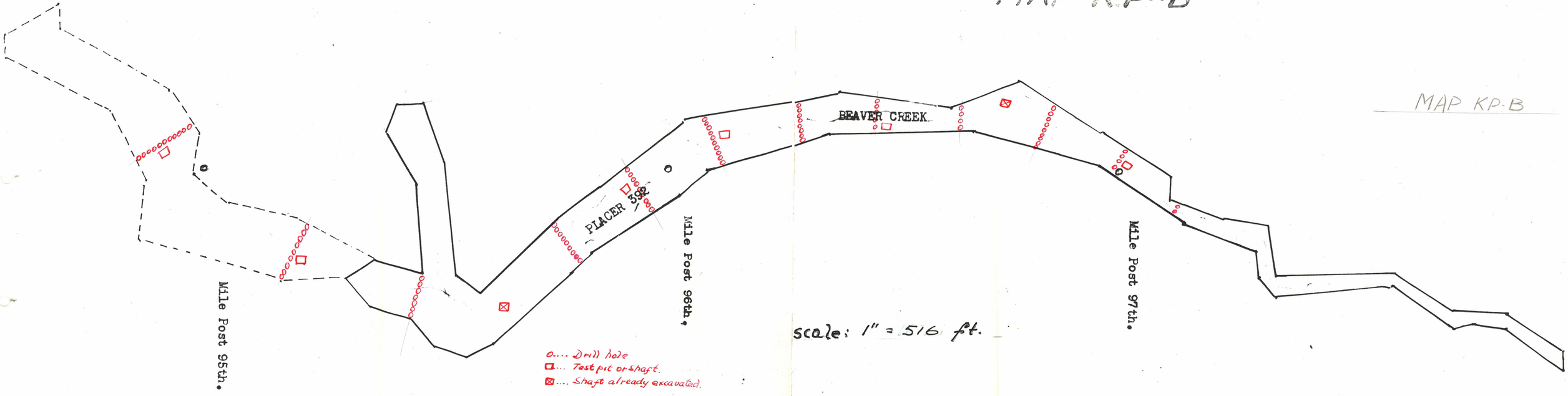
1941


T.5 N., R.1 E.
94 M.P.
95 M.P.
96 M.P.
Placer Deposit No. 1, 1869
H. E. S. No. 535 Mirtle Walters
H. E. S. No. 336 George W. Sager
Bureau of Land Management
Department of Interior
scale: 1" = 1004 ft.



MAP K.P-A.
scale: 1" = 1004 ft.
KEENAN PROPERTIES, INC.
LAWRENCE CO. SOUTH DAKOTA

MAP KP-B



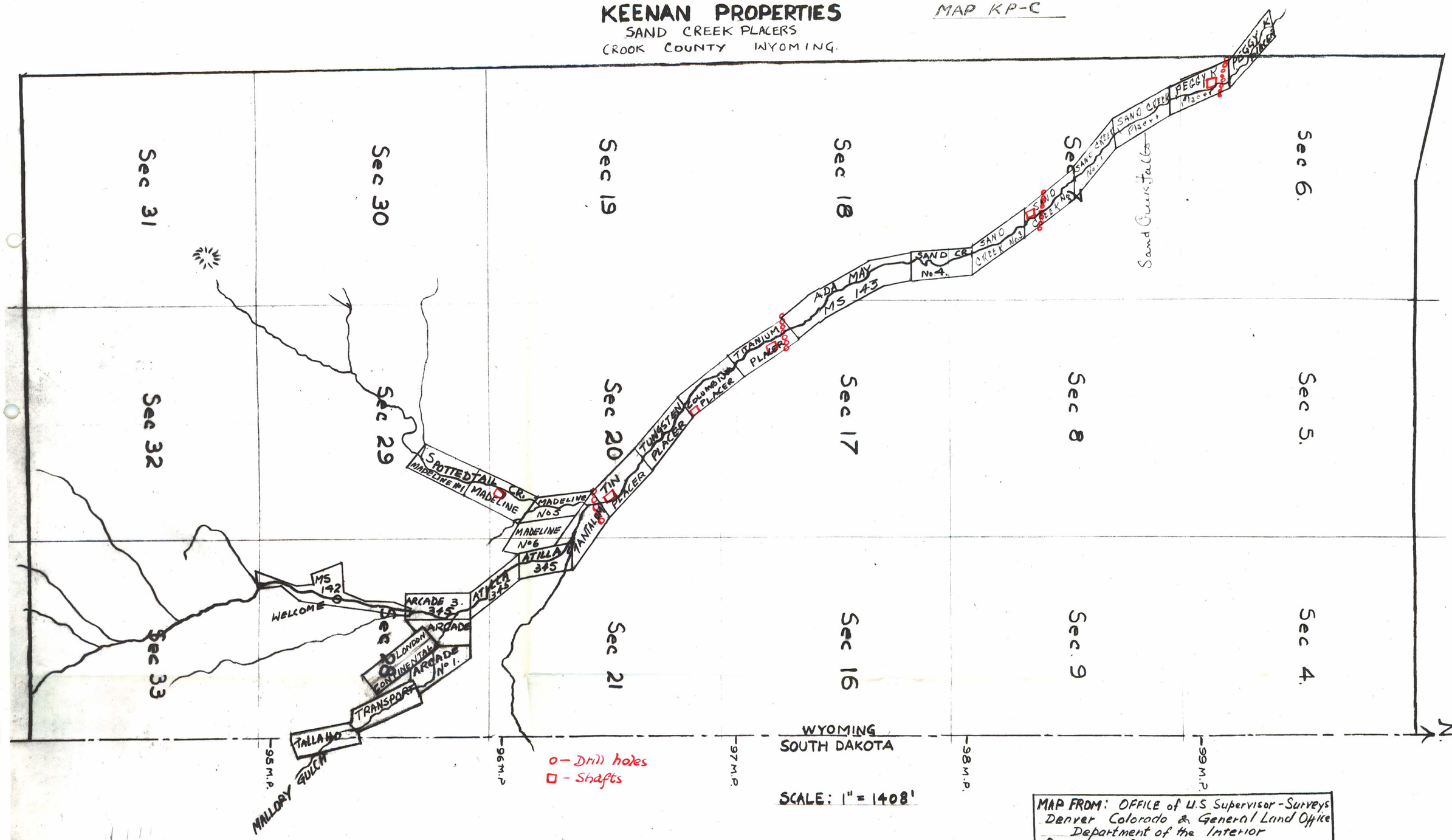
MAP KP-B

KEENAN PROPERTIES

SAND CREEK PLACERS

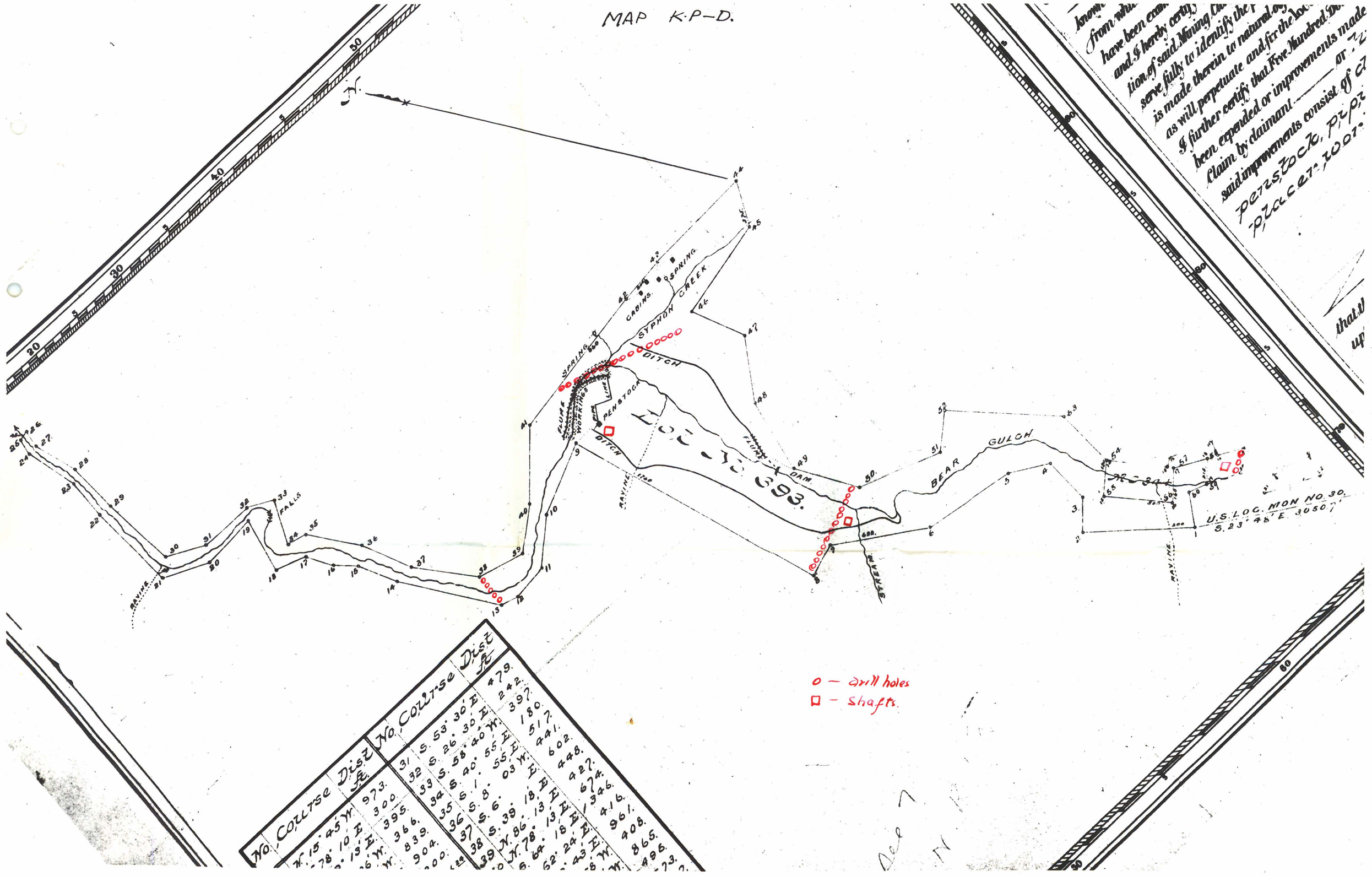
CROOK COUNTY WYOMING.

MAP KP-C



MAP FROM: OFFICE of U.S Supervisor-Surveys
Denver Colorado & General Land Office
Department of the Interior
Re-survey PLAT 1448124

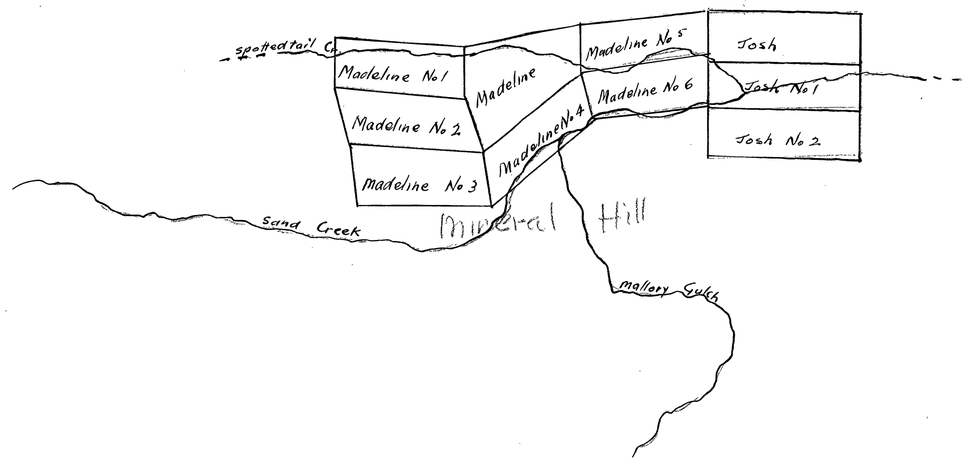
MAP K·P–D.



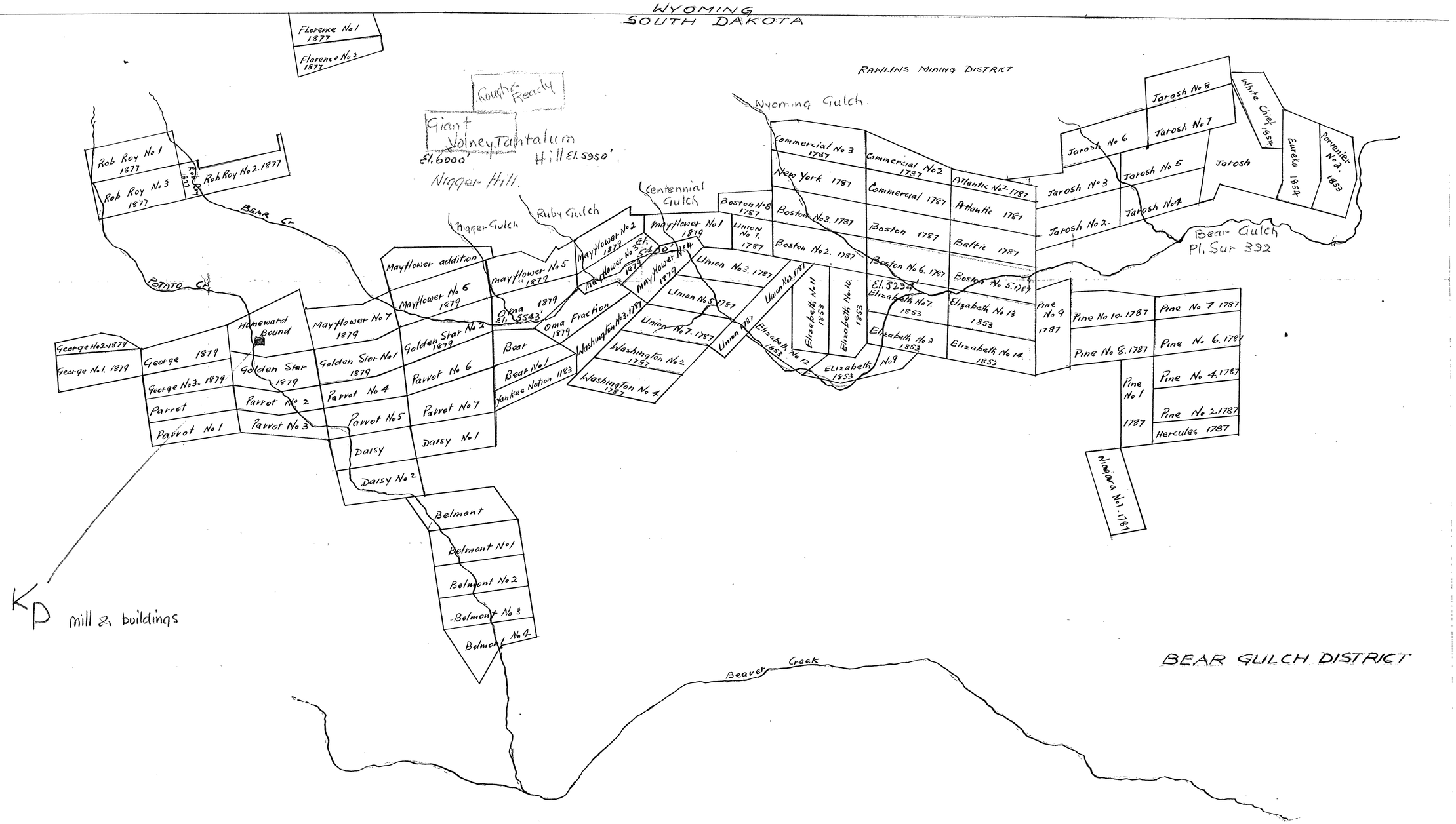
No.	Course	Dist Ft.
1	N. 15° 45' W.	973.
2	N. 78° 10' E.	300.
3	S. 13° E.	395.
4	S. 26° W.	366.
5	[illegible]	839.
6	[illegible]	904.
7	[illegible]	200.

No.	Course	Dist Ft.
31	S. 53° 30' E.	479.
32	S. 26° 30' E.	242.
33	S. 58° 40' W.	397.
34	S. 40° 55' E.	180.
35	S. 1° 55' E.	517.
36	S. 8° 03' W.	441.
37	S. 6° E.	602.
38	S. 39° 18' E.	448.
39	N. 86° 13' E.	427.
40	N. 78° 13' E.	674.
41	S. 64° 18' E.	346.
42	S. 62° 24' E.	416.
43	[illegible] 43' E.	961.
44	[illegible] 8' W.	408.
45	[illegible]	865.
46	[illegible]	496.
47	[illegible]	73.

Keenan Properties Lode claims showing patented and unpatented surveys:
Scale 500 feet to 1 inch. Variation 15° 30' E.
Rawlins Mining District, Lawrence County. South Dakota.
Wyoming claims in Crook County. Wyoming.

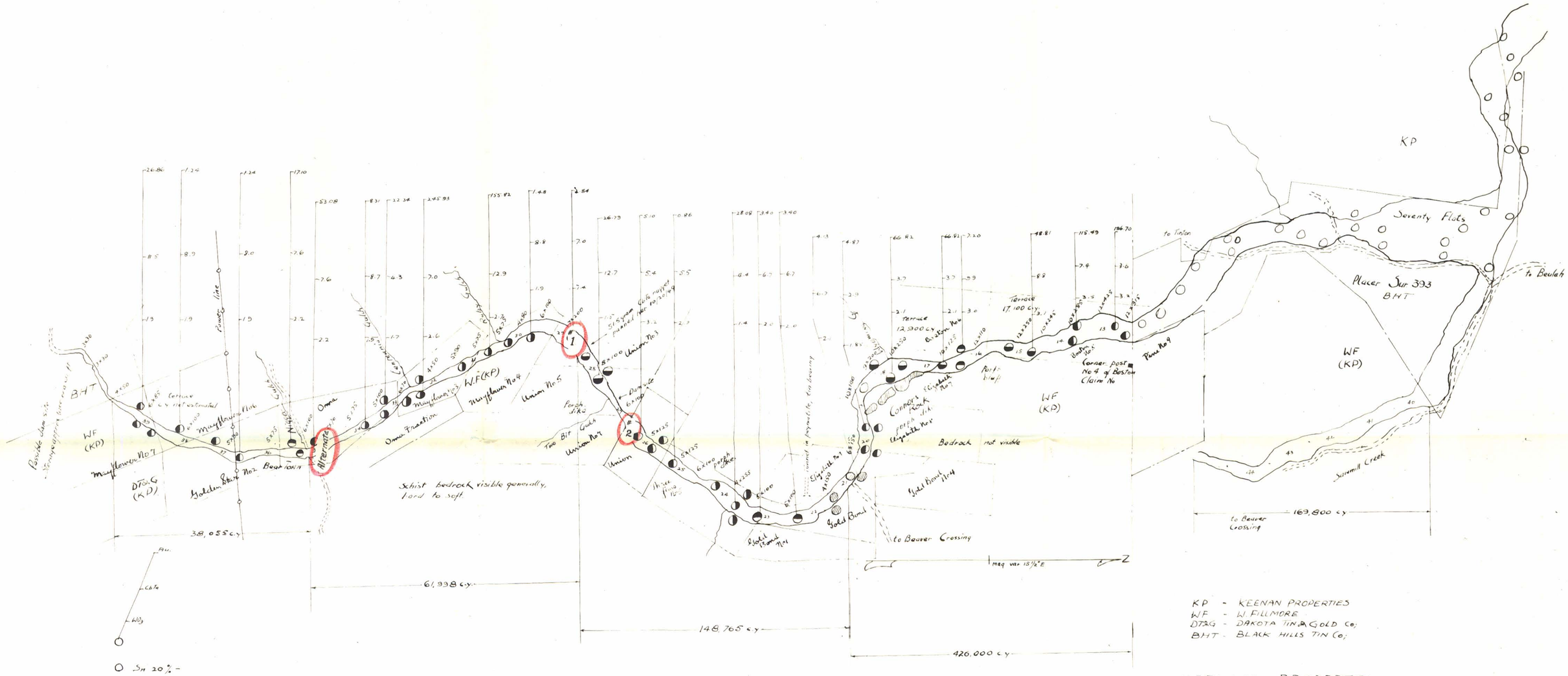


WYOMING
SOUTH DAKOTA



BEAR GULCH DISTRICT

BEAR CREEK



KP - KEENAN PROPERTIES
WF - W. FILLMORE
DT&G - DAKOTA TIN & GOLD Co.
BHT - BLACK HILLS TIN Co.

Symbols represent tin percentages in concentrates recovered from test holes & trenches; Gold in oz. per short ton; columbium-tantalum percentage and scheelite.

Analysis by Oscar N. Brisbach, Ouray, Colorado

Areas circled in red indicate location of test trenches, numbers 1, 2 and Alternate, for Exploration and Development Project, 1951

figures by stream channel indicate depth to bedrock and width of gravel. eg. 10x150
Sections 600 feet long, measured.
numbers in sections correspond with numbers shown on Maps 3 & 4.

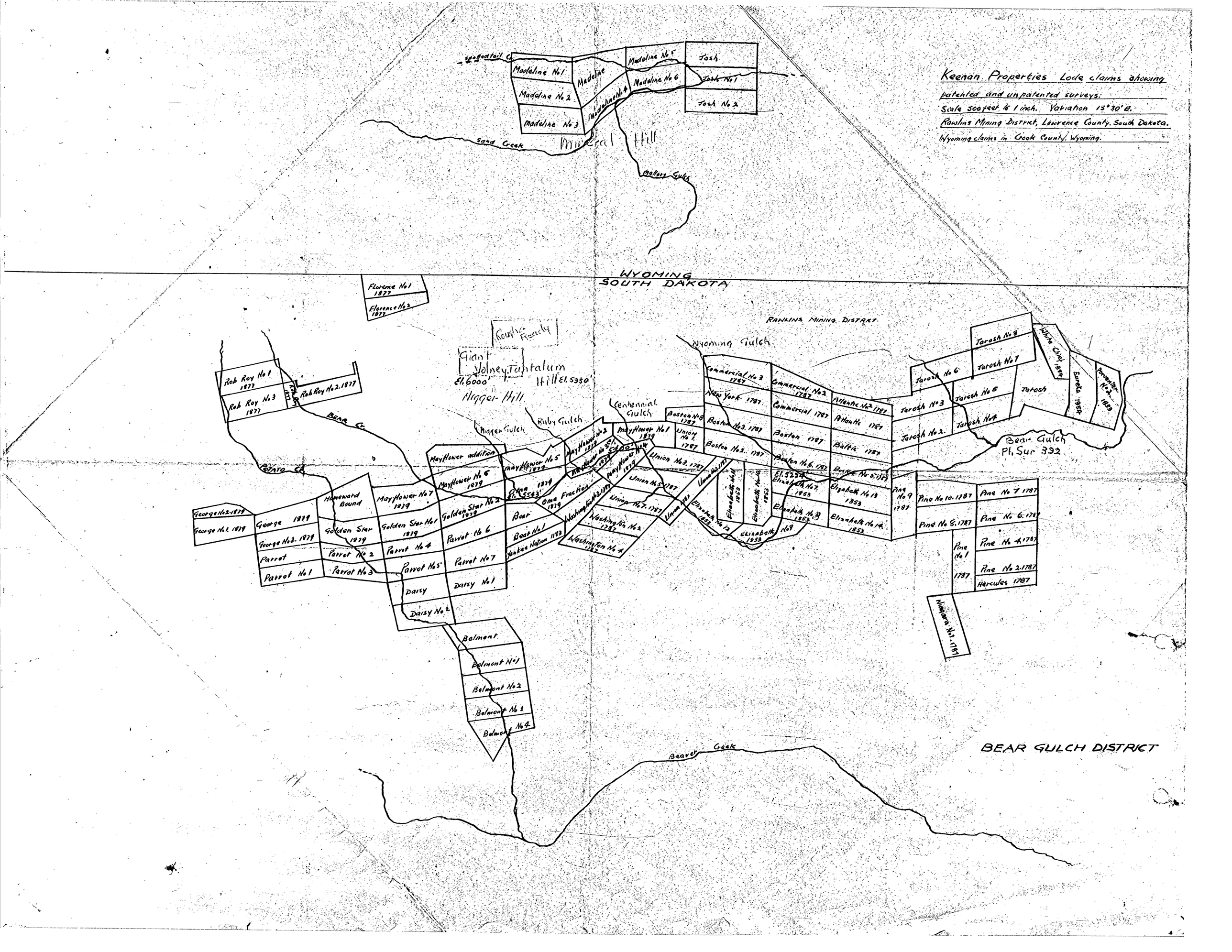
KEENAN PROPERTIES

Bear Creek Placer Ground Survey. Sept-Oct, 1949.
Scale 1" = 600' approx.

Distances paced, compass bearings. Sections & bedrock measured. bedrock position from test pits and trenches
Total yardage: 854,618 cubic yards, including Sawmill Cr area.

Map 1. To accompany Report on Bear & Potato Cr. Placers
by
W. C. Drinkill October 27, 1949.

MAP # 1


Keenan Properties Lode claims showing
patented and unpatented surveys.
Scale 500 feet to 1 inch. Variation 15° 30' E.
Rawlins Mining District, Lawrence County, South Dakota.
Wyoming claims in Crook County, Wyoming.
Spaghetti Cr.
Madeline No 1
Madeline No 2
Madeline No 3
Madeline
Madeline No 4
Madeline No 5
Madeline No 6
Josh
Josh No 1
Josh No 2
Sand Creek
Mineral Hill
Mallory Gulch
WYOMING
SOUTH DAKOTA
RAWLINS MINING DISTRICT
Florence No 1 1877
Florence No 2 1877
Rob Roy No 1 1877
Rob Roy No 3 1877
Rob Roy No 2. 1877
Bear Cr.
Potato Cr.
Rough Friendly
Giant
Volney
Tantalum Hill El. 5950'
El. 6000'
Nigger Hill
Nigger Gulch
Ruby Gulch
Centennial Gulch
Wyoming Gulch
Commercial No 3 1787
New York 1787
Commercial No 2 1787
Commercial 1787
Atlantic No 2 1787
Atlantic 1787
Boston No 5 1787
Boston No 3. 1787
Boston No 2. 1787
Boston 1787
Boston No 6. 1787
Baltic 1787
Boston No 5. 1787
Tarosh No 8
Tarosh No 7
Tarosh No 6
Tarosh No 5
Tarosh No 4
Tarosh No 3
Tarosh No 2.
Tarosh
White Chief 1854
Eureka 1854
Porcupine No 2 1853
Bear Gulch
Pl. Sur 392
Union No 1 1787
Union No 2. 1787
Union No 3. 1787
Union No 4 1787
Union No 5 1787
Union No 6 1787
Union No 7. 1787
Elizabeth No 11 1853
Elizabeth No 10 1853
Elizabeth No 12 1853
Elizabeth No 9 1853
El. 5234'
Elizabeth No 7 1853
Elizabeth No 8 1853
Elizabeth No 13 1853
Elizabeth No 14 1853
Pine No 9 1787
Pine No 10. 1787
Pine No 7 1787
Pine No 8. 1787
Pine No 6. 1787
Pine No 1 1787
Pine No 4. 1787
Pine No 2. 1787
Hercules 1787
Niagara No 1. 1787
Mayflower addition
Mayflower No 1 1879
Mayflower No 2 1879
Mayflower No 3 1879
Mayflower No 4 1879
Mayflower No 5 1879
Mayflower No 6 1879
Mayflower No 7 1879
Pina 1879 El. 5543'
Pina Fraction 1879
Washington No 1 1787
Washington No 2 1787
Washington No 3 1787
Washington No 4 1787
Bear
Bear No 1
Yankee Nation 1183
Homeward Bound
Golden Star 1879
Golden Star No 1 1879
Golden Star No 2 1879
Parrot No 6
Parrot No 7
Parrot No 4
Parrot No 5
Parrot No 2
Parrot No 3
Parrot
Parrot No 1
George No 2. 1879
George No 1. 1879
George 1879
George No 3. 1879
Daisy
Daisy No 1
Daisy No 2
Belmont
Belmont No 1
Belmont No 2
Belmont No 3
Belmont No 4
Beaver Creek
BEAR GULCH DISTRICT

TRENCH #1.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SOUTH DAKOTA—WYOMING
TINTON AND VICINITY

Bear Creek.
Receiving point

DAM #2.

DAM #1.
TWO BIT Gulch

End of elevation

Supply point of additional water supply.

KEENAN PROPERTIES
POTATO CR. DAM.

The entire area covered by this map is within the BLACK HILLS and the BLACK HILLS NATIONAL FOREST. It falls within the Sundance quadrangle, surveyed in 1894 and 1899, scale 1:125000

Topography by A. C. McCutchen
Surveyed in 1939

TRUE NORTH
MAGNETIC NORTH
15½°
APPROXIMATE MEAN DECLINATION, 1939

Scale 1/24000

1 ½ 0 1 Mile

500 0 500 1000 1500 2000 2500 Yards

1000 0 1000 2000 3000 4000 5000 6000 7000 Feet

1 .5 0 1 Kilometer

Contour interval 20 feet
Datum is mean sea level

Polyconic projection. 1927 North American datum
5000 yard grid based on U. S. zone system, E
10000 foot grid based on South Dakota (North)
and Wyoming (East) rectangular coordinate systems

TINTON AND VICINITY, S. DAK.-WYO.
Edition of 1944
N4420—W10400/5

THE TOPOGRAPHIC MAPS OF THE UNITED STATES

The United States Geological Survey is making a series of standard topographic maps to cover the United States. This work has been in progress since 1882, and the published maps cover more than 47 percent of the country, exclusive of outlying possessions.

The maps are published on sheets that measure about 16½ by 20 inches. Under the general plan adopted the country is divided into quadrangles bounded by parallels of latitude and meridians of longitude. These quadrangles are mapped on different scales, the scale selected for each map being that which is best adapted to general use in the development of the country, and consequently, though the standard maps are of nearly uniform size, the areas that they represent are of different sizes. On the lower margin of each map are printed graphic scales showing distances in feet, meters, miles, and kilometers. In addition, the scale of the map is shown by a fraction expressing a fixed ratio between linear measurements on the map and corresponding distances on the ground. For example, the scale $\frac{1}{62,500}$ means that 1 unit on the map (such as 1 inch, 1 foot, or 1 meter) represents 62,500 of the same units on the earth's surface.

Although some areas are surveyed and some maps are compiled and published on special scales for special purposes, the standard topographic surveys and the resulting maps have for many years been of three types, differentiated as follows:

1. Surveys of areas in which there are problems of great public importance—relating, for example, to mineral development, irrigation, or reclamation of swamp areas—are made with sufficient detail to be used in the publication of maps on a scale of $\frac{1}{31,680}$ (1 inch = one-half mile) or $\frac{1}{24,000}$ (1 inch = 2,000 feet), with a contour interval of 1 to 100 feet, according to the relief of the particular area mapped.

2. Surveys of areas in which there are problems of average public importance, such as most of the basin of the Mississippi and its tributaries, are made with sufficient detail to be used in the publication of maps on a scale of $\frac{1}{62,500}$ (1 inch = nearly 1 mile), with a contour interval of 10 to 100 feet.

3. Surveys of areas in which the problems are of minor public importance, such as much of the mountain or desert region of Arizona or New Mexico, and the high mountain area of the northwest, are made with sufficient detail to be used in the publication of maps on a scale of $\frac{1}{125,000}$ (1 inch = nearly 2 miles) or $\frac{1}{250,000}$ (1 inch = nearly 4 miles), with a contour interval of 20 to 250 feet.

The aerial camera is now being used in mapping. From the information recorded on the photographs, planimetric maps, which show only drainage and culture, have been made for some areas in the United States. By the use of stereoscopic plotting apparatus, aerial photographs are utilized also in the making of the regular topographic maps, which show relief as well as drainage and culture.

A topographic survey of Alaska has been in progress since 1898, and nearly 44 percent of its area has now been mapped. About 15 percent of the Territory has been covered by maps on a scale of $\frac{1}{500,000}$ (1 inch = nearly 8 miles). For most of the remainder of the area surveyed the maps published are on a scale of $\frac{1}{250,000}$ (1 inch = nearly 4 miles). For some areas of particular economic importance, covering about 4,300 square miles, the maps published are on a scale of $\frac{1}{62,500}$ (1 inch = nearly 1 mile) or larger. In addition to the area covered by topographic maps, about 11,300 square miles of southeastern Alaska has been covered by planimetric maps on scales of $\frac{1}{125,000}$ and $\frac{1}{250,000}$.

The Hawaiian Islands have been surveyed, and the resulting maps are published on a scale of $\frac{1}{62,500}$.

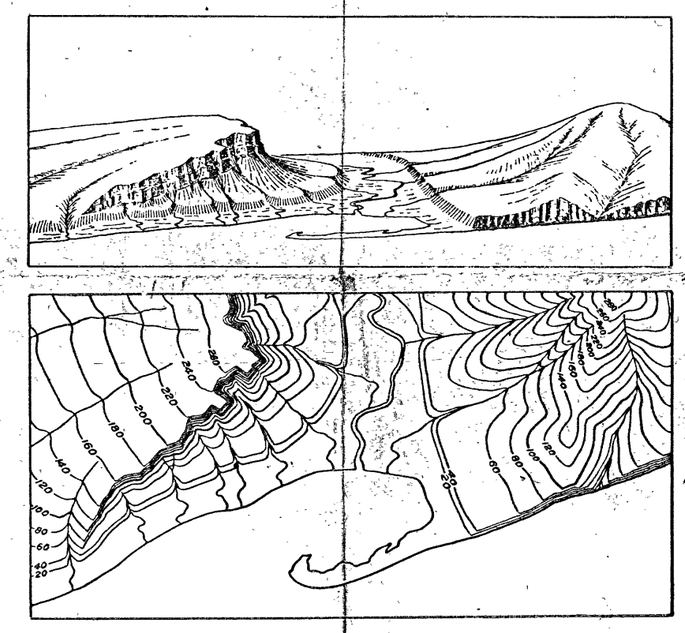
A survey of Puerto Rico is now in progress. The scale of the published maps is $\frac{1}{30,000}$.

The features shown on topographic maps may be arranged in three groups—(1) water, including seas, lakes, rivers, canals, swamps, and other bodies of water; (2) relief, including mountains, hills, valleys, and other features of the land surface; (3) culture (works of man), such as towns, cities, roads, railroads, and boundaries. The symbols used to represent these features are shown and explained below. Variations appear on some earlier maps, and additional features are represented on some special maps.

All the water features are represented in blue, the smaller streams and canals by single blue lines and the larger streams by double lines. The larger streams, lakes, and the sea are accentuated by blue water lining or blue tint. Intermittent streams—those whose beds are dry for a large part of the year—are shown by lines of blue dots and dashes.

Relief is shown by contour lines in brown, which on a few maps are supplemented by shading showing the effect of light thrown from the northwest across the area represented, for the purpose of giving the appearance of relief and thus aiding in the interpretation of the contour lines. A contour line represents an imaginary line on the ground (a contour) every part of which is at the same altitude above sea level. Such a line could be drawn at any altitude, but in practice only the contours at certain regular intervals of altitude are shown. The datum or zero of altitude of the Geological Survey maps is mean sea level. The 20-foot contour would be the shore line if the sea should rise 20 feet above mean sea level. Contour lines show the shape of the hills, mountains, and valleys, as well as their altitude. Successive contour lines that are far apart on the map indicate a gentle slope, lines that are close together indicate a steep slope, and lines that run together indicate a cliff.

The manner in which contour lines express altitude, form, and grade is shown in the figure below.



The sketch represents a river valley that lies between two hills. In the foreground is the sea, with a bay that is partly enclosed by a hooked sand bar. On each side of the valley is a terrace into which small streams have cut narrow gullies. The hill on the right has a rounded summit and gently sloping spurs separated by ravines. The spurs are truncated at their lower ends by a sea cliff. The hill at the left terminates abruptly at the valley in a steep scarp, from which it slopes gradually away and forms an inclined tableland that is traversed by a few shallow gullies. On the map each of these features is represented, directly beneath its position in the sketch, by contour lines.

The contour interval, or the vertical distance in feet between one contour and the next, is stated at the bottom of each map. This interval differs according to the topography of the area mapped: in a flat country it may be as small as 1 foot; in a mountainous region it may be as great as 250 feet. In order that the contours may be read more easily certain contour lines, every fourth or fifth, are made heavier than the others and are accompanied by figures showing altitude. The heights of many points—such as road intersections, summits, surfaces of lakes, and benchmarks—are also given on the map in figures, which show altitudes to the nearest foot only. More precise figures for the altitudes of benchmarks are given in the Geological Survey's bulletins on spirit leveling. The geodetic coordinates of triangulation and transit-traverse stations are also published in bulletins.

Lettering and the works of man are shown in black. Boundaries, such as those of a State, county, city, land grant, township, or reservation, are shown by continuous or broken lines of different kinds and weights. Public roads suitable for motor travel the greater part of the year are shown by solid double lines; poor public roads and private roads by dashed double lines; trails by dashed single lines. Additional public road classification if available is shown by red overprint.

Each quadrangle is designated by the name of a city, town, or prominent natural feature within it, and on the margins of the map are printed the names of adjoining quadrangles of which maps have been published. More than 4,100 quadrangles in the United States have been surveyed, and maps of them similar to the one on the other side of this sheet have been published.

Geologic maps of some of the areas shown on the topographic maps have been published in the form of folios. Each folio includes maps showing the topography, geology, underground structure, and mineral deposits of the area mapped, and several pages of descriptive text. The text explains the maps and describes the topographic and geologic features of the country and its mineral products. Two hundred twenty-five folios have been published.

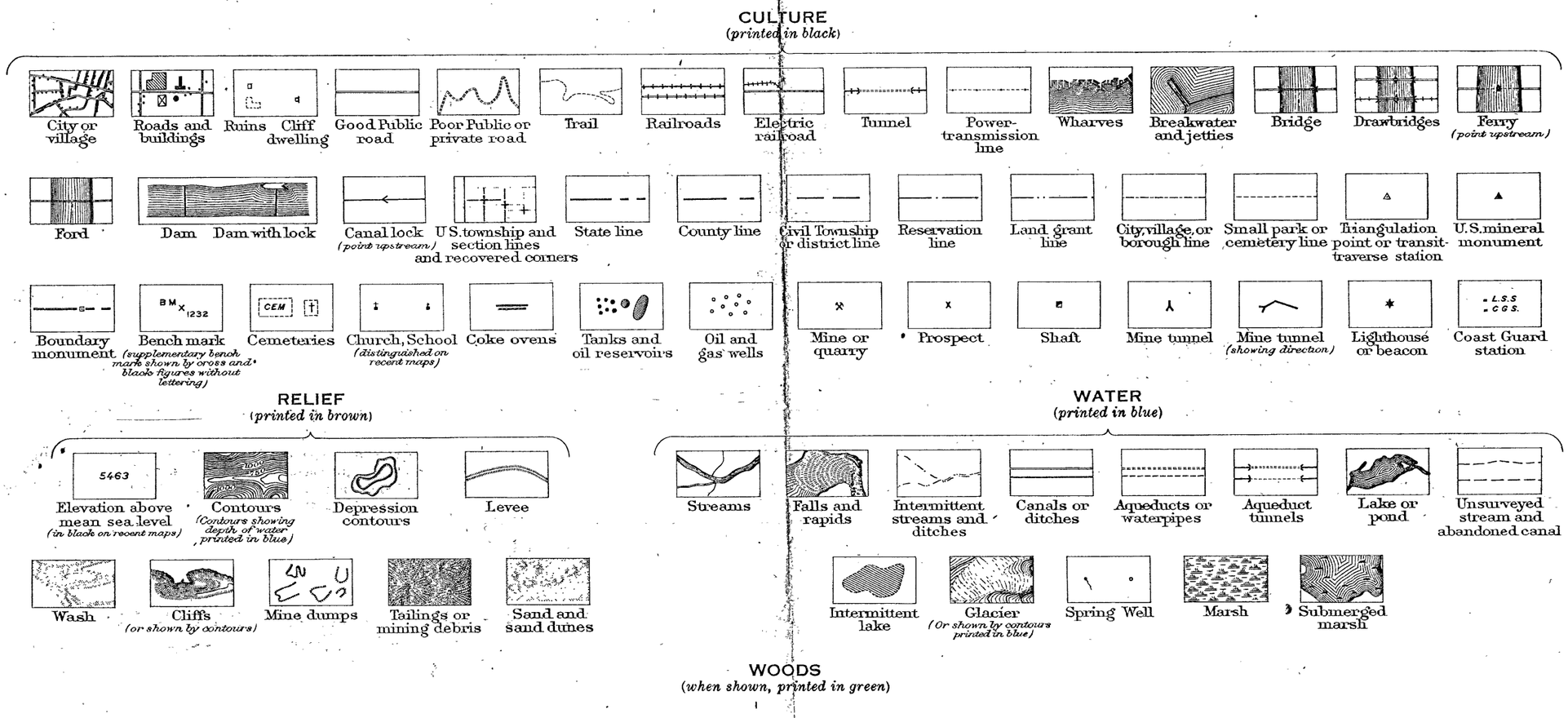
Index maps of each State and of Alaska and Hawaii showing the areas covered by topographic maps and geologic folios published by the United States Geological Survey may be obtained free. Copies of the standard topographic maps may be obtained for 10 cents each; some special maps are sold at different prices. A discount of 40 percent is allowed on an order amounting to $5 or more at the retail price. The discount is allowed on an order for maps alone, either of one kind or in any assortment, or for maps together with geologic folios. The geologic folios are sold for 25 cents or more each, the price depending on the size of the folio. A circular describing the folios will be sent on request.

Applications for maps or folios should be accompanied by cash, draft, or money order (not postage stamps) and should be addressed to

THE DIRECTOR,
United States Geological Survey,
Washington, D. C.

November 1937.

STANDARD SYMBOLS



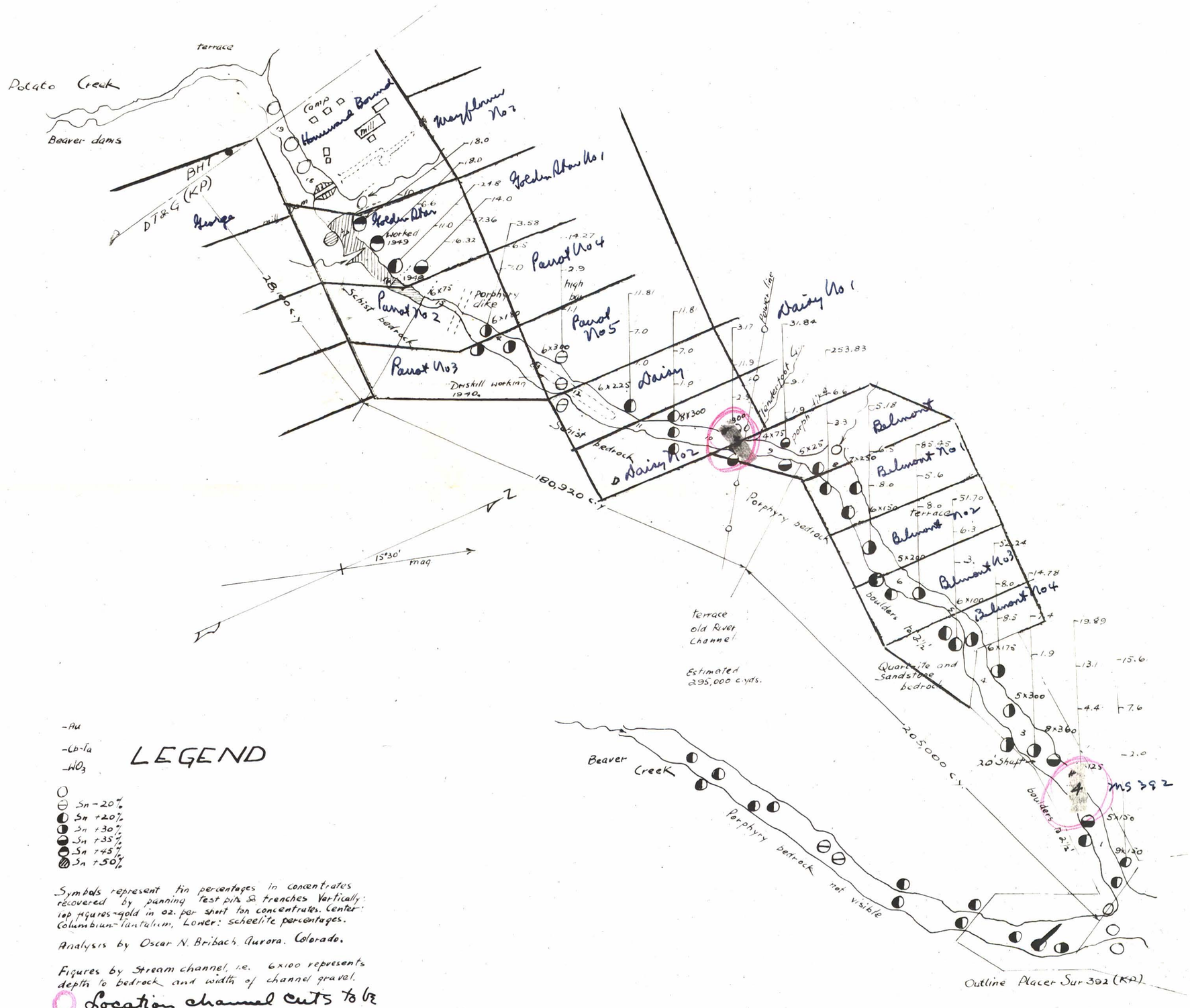
POTATO CREEK

KEENAN PROPERTIES

MAP # 2.

Potato Creek Placer Ground Survey. October 1949
Scale: 1" = 600' approx
Distances paced. Section width measured, bedrock position from test pits & trenches. Total yardage excluding Sections 16-19. 579,920 c.yds.

W.C. Brickill October 27. 1949.



LEGEND

- Au
- Cb-Ta
- WO_3

- Sn - 20%
- Sn + 20%
- Sn + 30%
- Sn + 35%
- Sn + 45%
- Sn + 50%

Symbols represent tin percentages in concentrates recovered by panning test pits & trenches. Vertically: top figures - gold in oz. per short ton concentrates. Center: Columbian-Tantalum. Lower: scheelite percentages.

Analysis by Oscar N. Briback. Aurora. Colorado.

Figures by Stream channel, i.e. 6x100 represents depth to bedrock and width of channel gravel.

Location channel cuts to be explored 1951

POTATO CREEK

KEENAN PROPERTIES

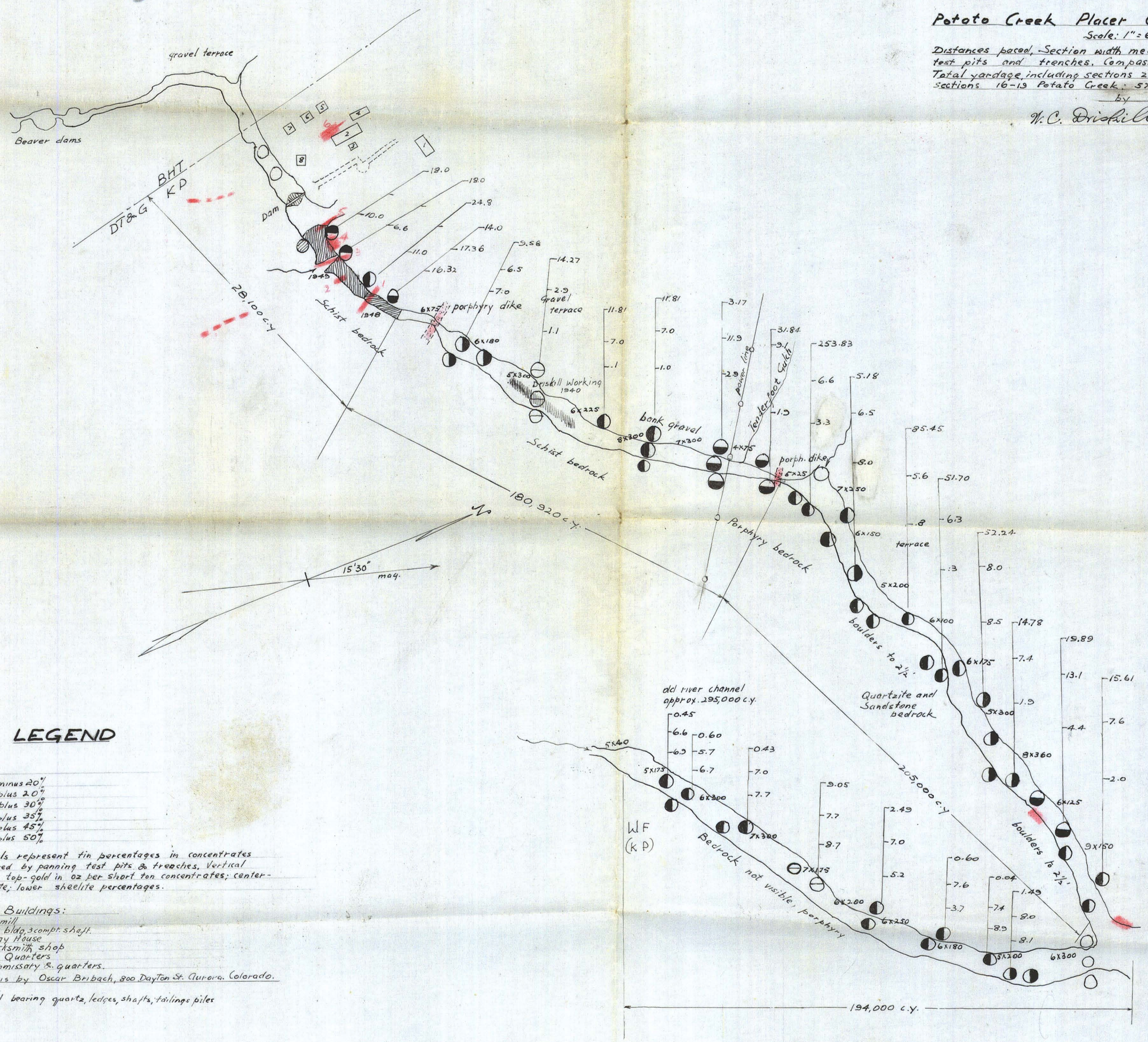
Potato Creek Placer Ground Survey Oct. 1949

Scale: 1" = 600' approx.

Distances paced, Section width measured, bedrock position from test pits and trenches. Compass bearings.

Total yardage including sections 20-28, Beaver Creek and excluding sections 16-19 Potato Creek: 579,920 cubic yards. Survey by

W. C. Driskill October 27, 1949



LEGEND

Au
Ta_2O_5
WO_3

- Sn minus 20%
- Sn plus 20%
- Sn plus 30%
- Sn plus 35%
- Sn plus 45%
- Sn plus 50%

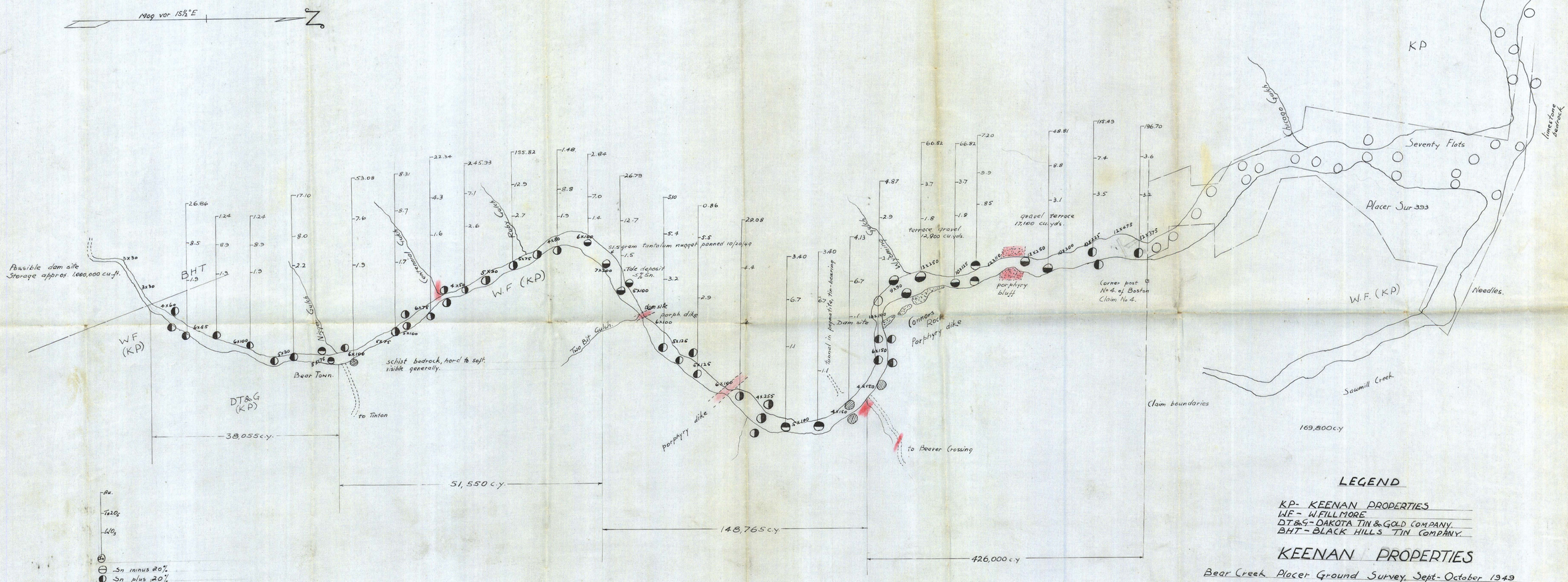
Symbols represent tin percentages in concentrates recovered by panning test pits & trenches. Vertical lines:- top-gold in oz per short ton concentrates; center-tantalite; lower sheelite percentages.

Camp Buildings:
1. Sawmill
2. Mill bldg, 3 compt. shaft.
3. Assay House
4. Blacksmith shop
5.6.7. Quarters
8. Commissary & quarters.

Analysis by Oscar Bribach, 800 Dayton St. Aurora, Colorado.

■ Gold bearing quartz, ledges, shafts, tailings piles

BEAR CREEK



Au.
Ta_2O_5
WO_3

- Sn minus 20%
- Sn plus 20%
- Sn plus 30%
- Sn plus 35%
- Sn plus 45%
- Sn plus 50%

Symbols represent tin percentages in concentrates recovered by panning test holes & trenches. Vertical lines: Tap-Gold in oz per short ton concentrates; center-Tantalite, outer-scheelite.
Analysis by Oscar Brisbach, 800 Dayton St. Aurora. Colorado.
Gold bearing quartz ledges, porphyry outcrops.

LEGEND

KP- KEENAN PROPERTIES
WF - W.FILLMORE
DT&G - DAKOTA TIN & GOLD COMPANY.
BHT - BLACK HILLS TIN COMPANY.

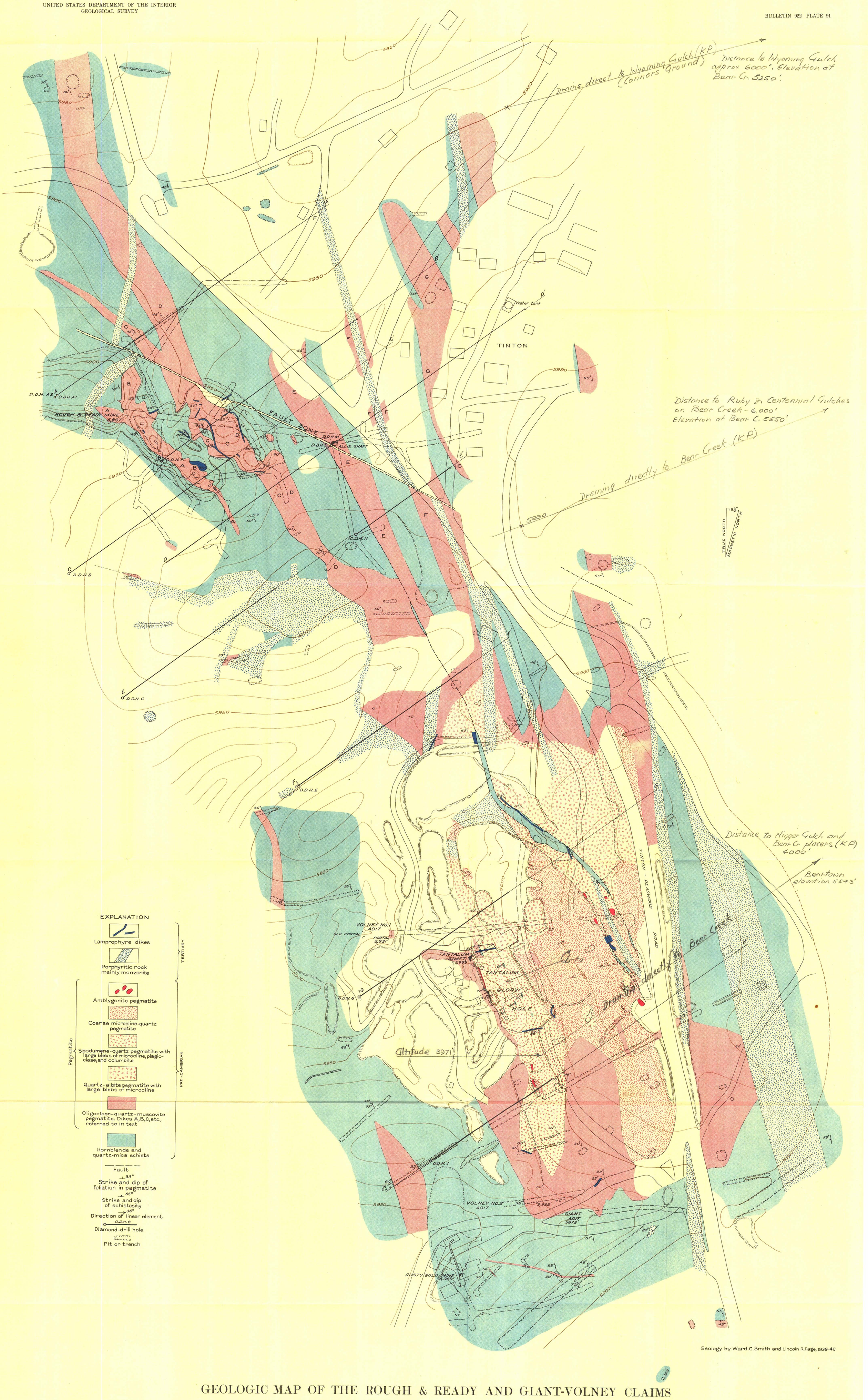
KEENAN PROPERTIES

Bear Creek Placer Ground Survey. Sept- October 1949

Scale: 1" = 600' approx

Compass bearings, distances paced, sections & bedrock measured bedrock position from test pits & trenches.
Total yardage: 854, 618 cubic yards, including Sawmill Creek.
OCT. 27, 1949

H. C. Drinkill October 27, 1949



GEOLOGIC MAP OF THE ROUGH & READY AND GIANT-VOLNEY CLAIMS